

21

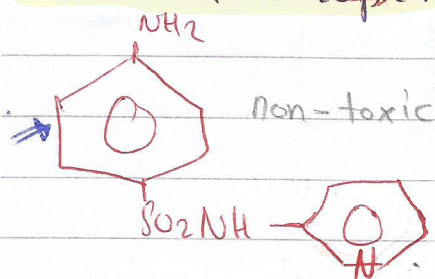


21

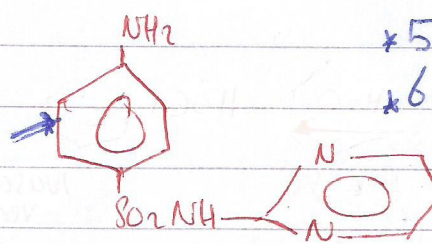


Anti bacterial sulphonamides ex

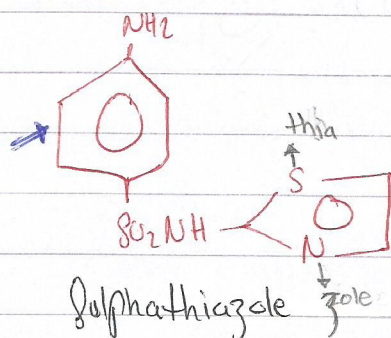
* 5 member ring = ole
* 6 member ring = ine



Sulpha pyridine

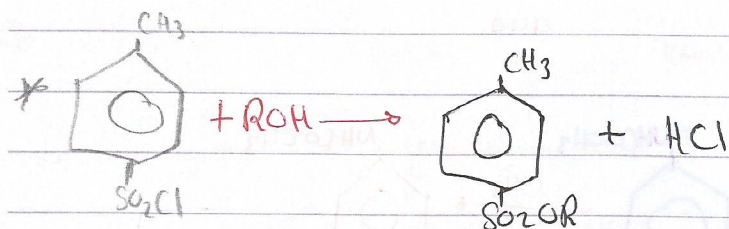
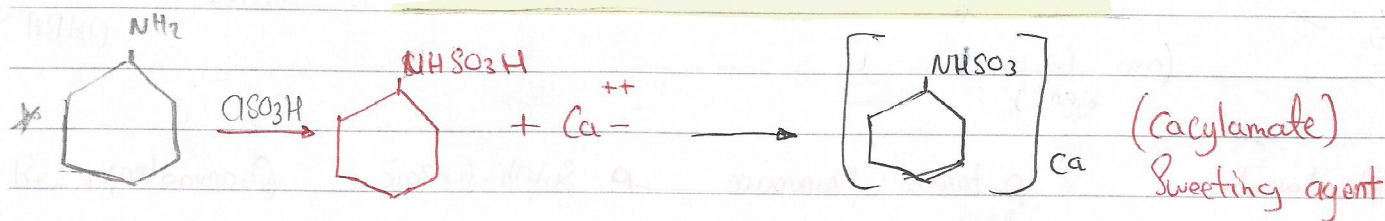


Sulphadiazine

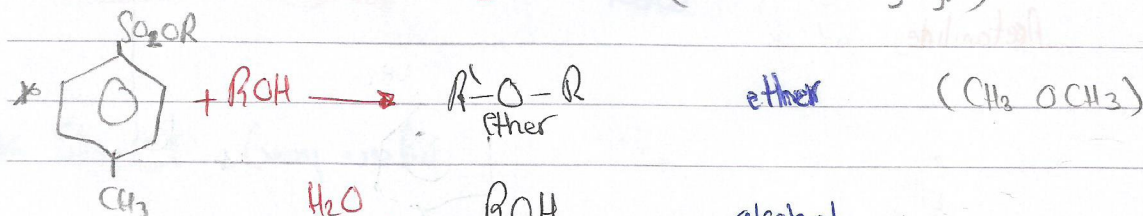


Sulphathiazole

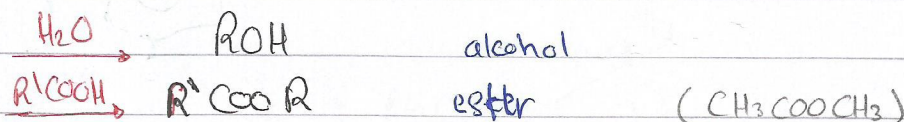
* Anti bacterial for humans but cause crystal urine
used in veterinary medicines for
Animals.



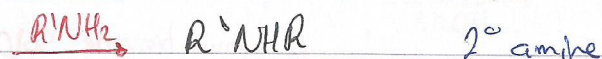
Tosyl ester (Good leaving gp.)



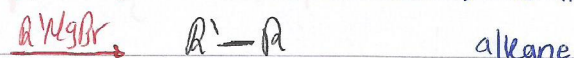
ether (CH₃ OCH₃)



alcohol
ester (CH₃COOCH₃)



2° amine



alkane

Phenols

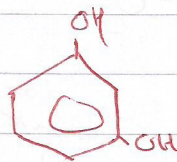
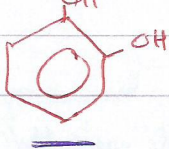
(24)

Monohydric

Dihydric



Catechol

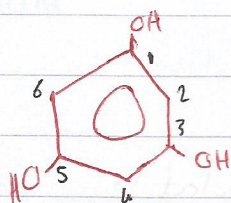


Pyrogallol

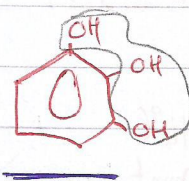


Quinol

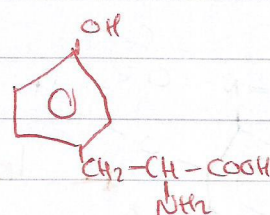
Trihydric



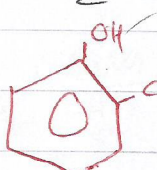
1,2,5, trihydroxy benzene
(Phloroglucinol)



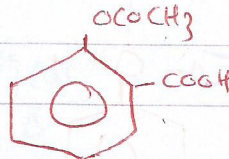
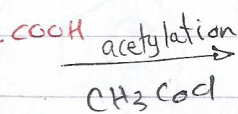
Pyrogallol



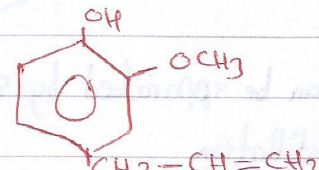
Tyrosine



Salicylic acid

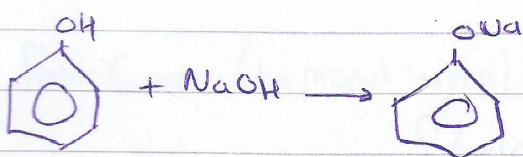
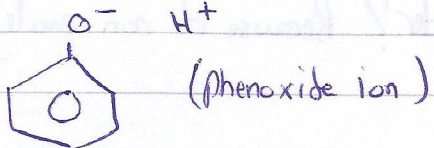


Acetylsalicylic acid (Aspirin)

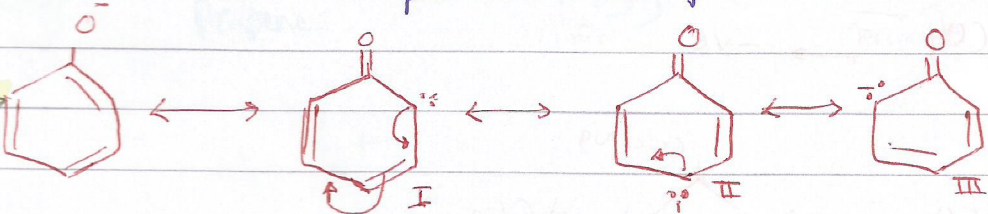


(Eugenol)

⇒ Phenols are acidic
RO



Sod. phenoxide - sodium phenoxide



* Resonance structure (I-III) stabilize the phenoxide ion.

Hydrogen bonding

F 4

O 3.6

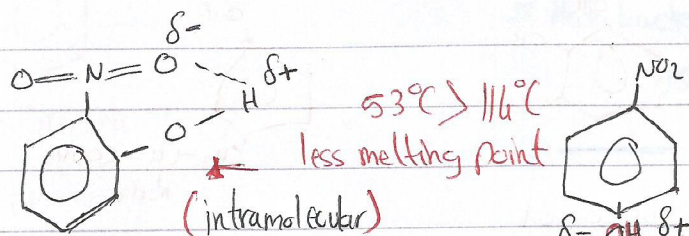
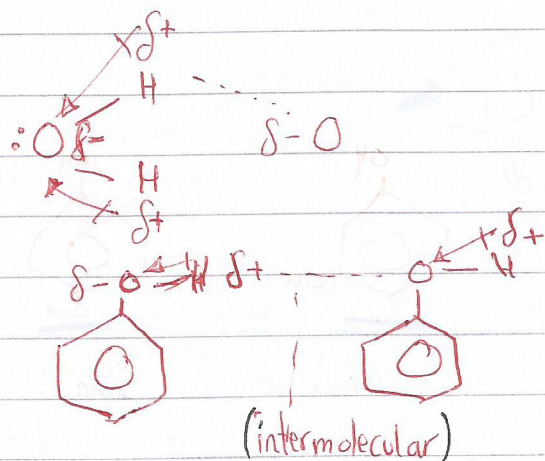
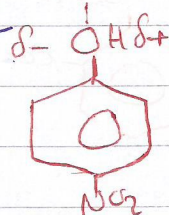
N 3

Cl 3

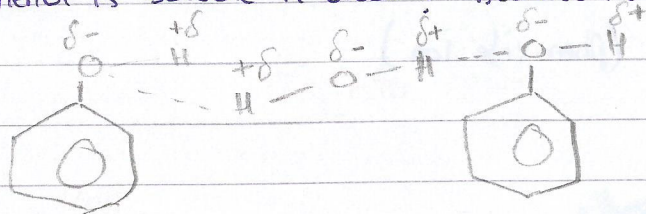
C 2

S 2.6

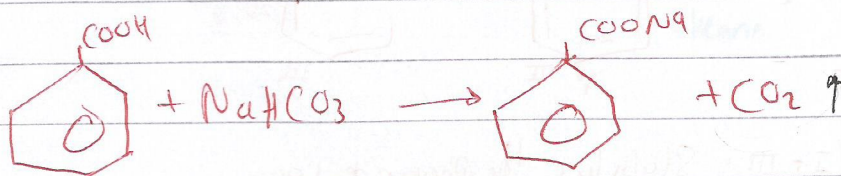
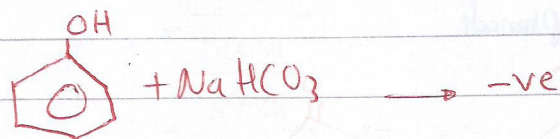
H 2.1

Steam Volatile $\frac{1}{2}$ (Never broken)53°C > 116°C
less melting pointnon volatile
(Can be broken)
(intermolecular)* can be separated by steam
distillation

Why phenol is soluble in water? Because it can make H-bond with water

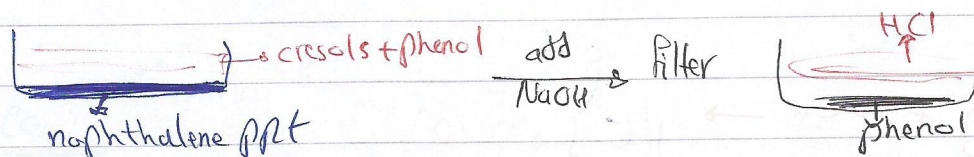


How can we differentiate between phenol and alcohol?

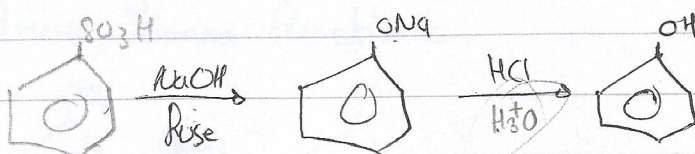


Preparations 80

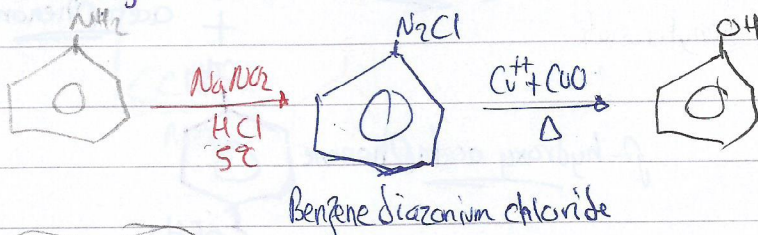
① **cool tar** → naphthalene + cresols + Phenol
 ↓ cooling



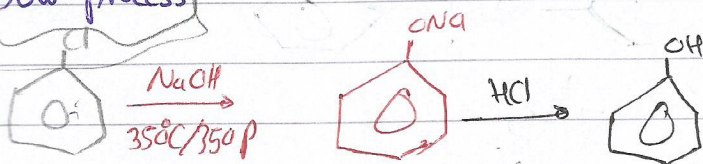
② Sulphonic acids



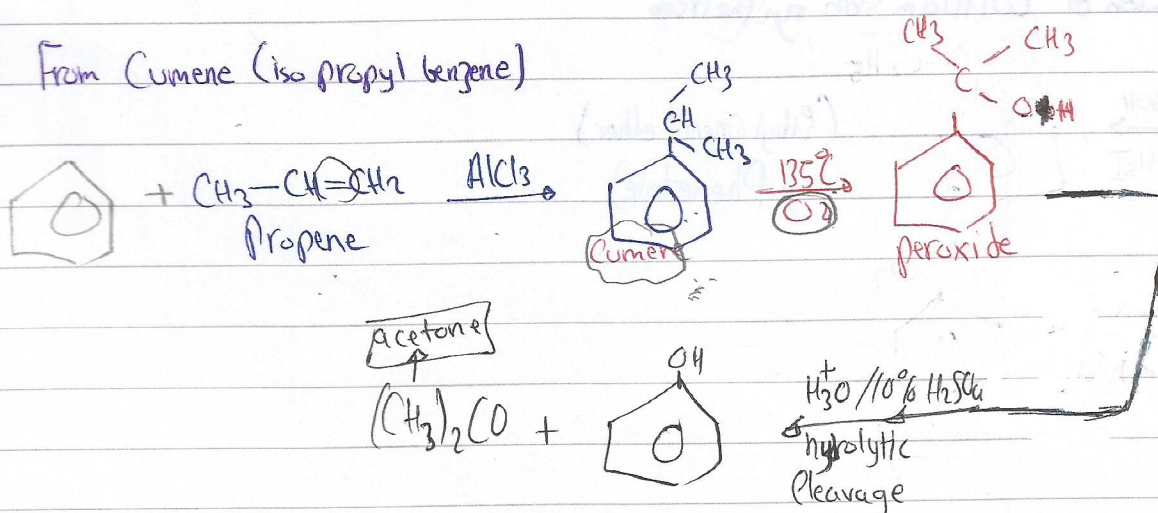
③ From benzene diazonium chloride



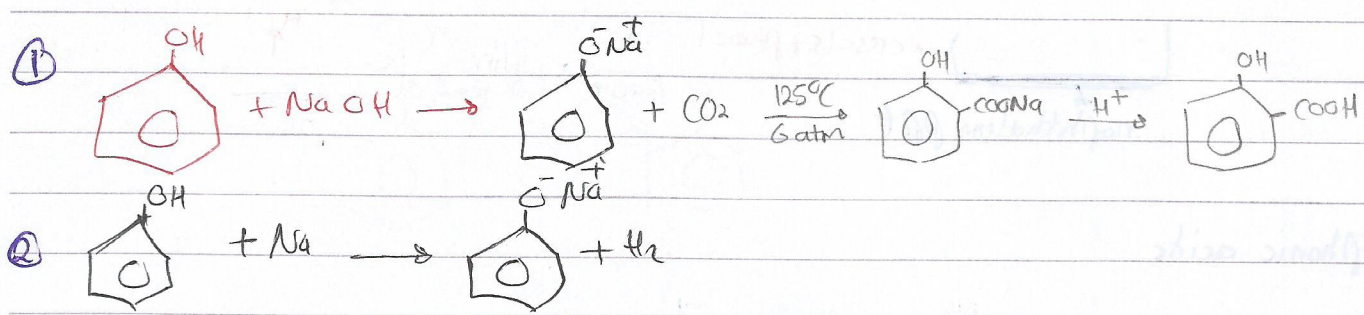
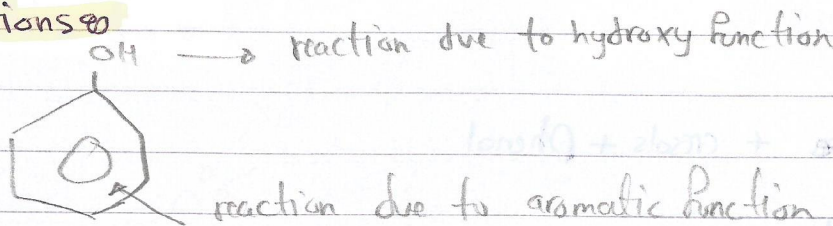
④ Dow process



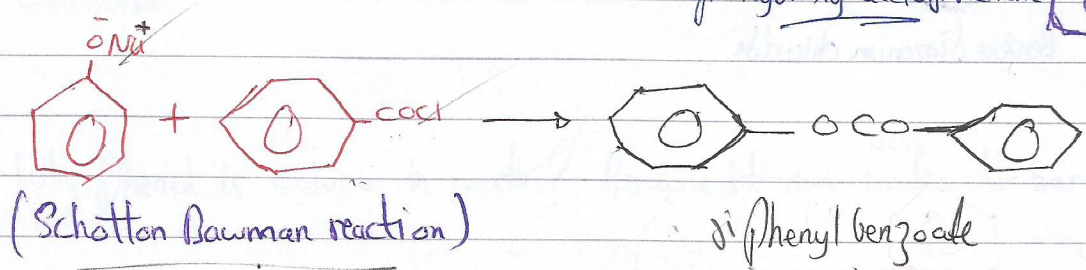
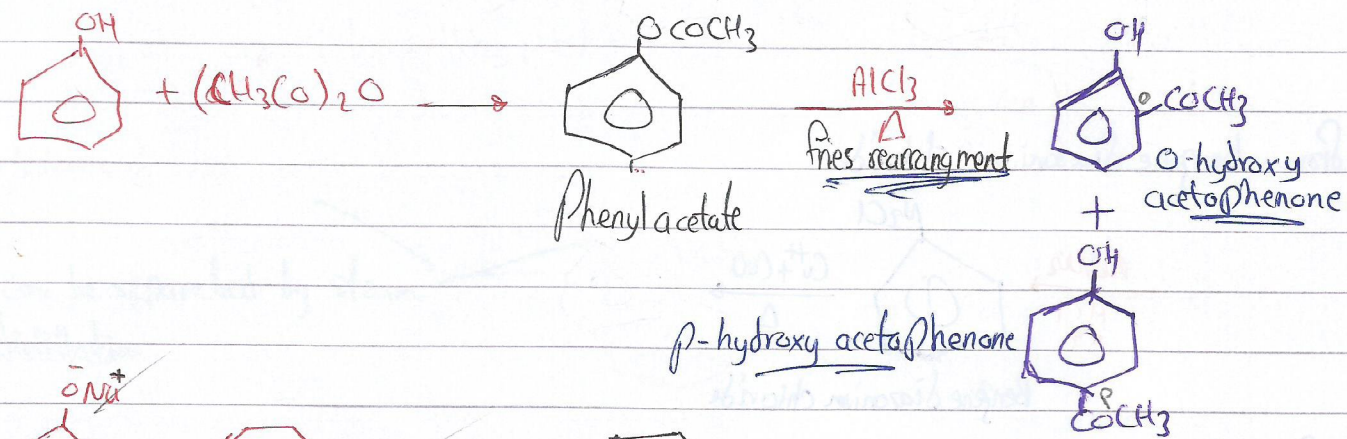
⑤ From Cumene (iso propyl benzene)



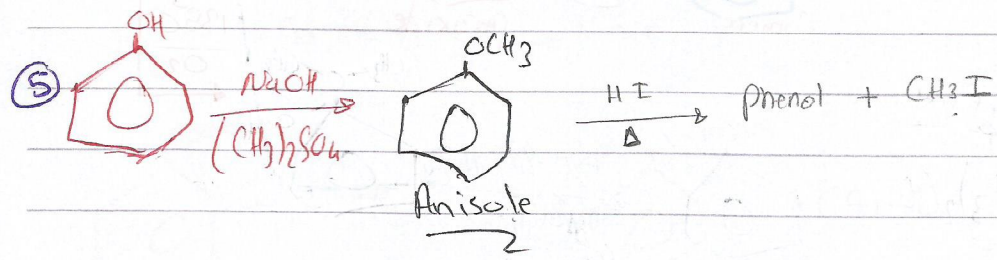
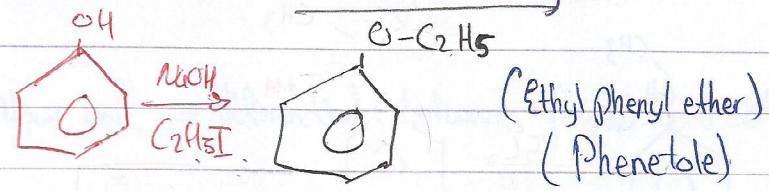
Reactions of



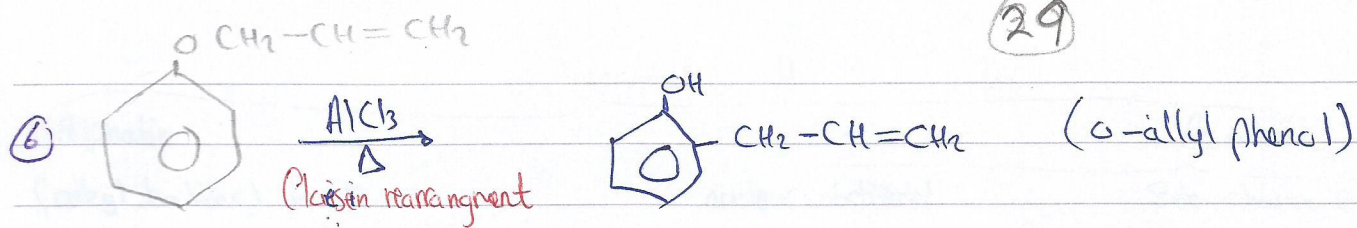
③ Ester Formation



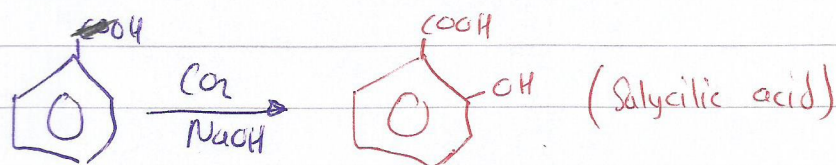
④ Ether Formation & Williamson synthesis



(CH₃)₂SO₄



⑦ Kolbe reaction



⑧ Reimer-Tiemann Reaction

